

Zarya

space weather analysis

+ Health Alert System

Emelianov Ilya



Problems

Space weather is a factor influencing our civilization.

It causes geomagnetic disturbances that disable satellites and disrupt the operation of GPS and navigation systems.

It can cause disruptions in radio communications and pose risks to power systems, causing large-scale blackouts.

For millions of people, magnetic storms cause serious deterioration in health.

However, access to up-to-date and understandable information about the state of space weather is currently limited.





Decision

Our app provides accurate space weather forecasts,
Warnings and clear explanations for all users,
allowing both learning from the data and its
scientific use.



01

Who is this
app for?



Audience

The scientific
community and
astro enthusiasts

01

03

Space industry
engineers

People sensitive to
weather

02

04

Students and
Teachers



Weather

Solar storms

Powerful energy emissions from our sun. These events are the root cause of all subsequent disturbances in near-Earth space and on Earth itself, affecting modern technological systems.

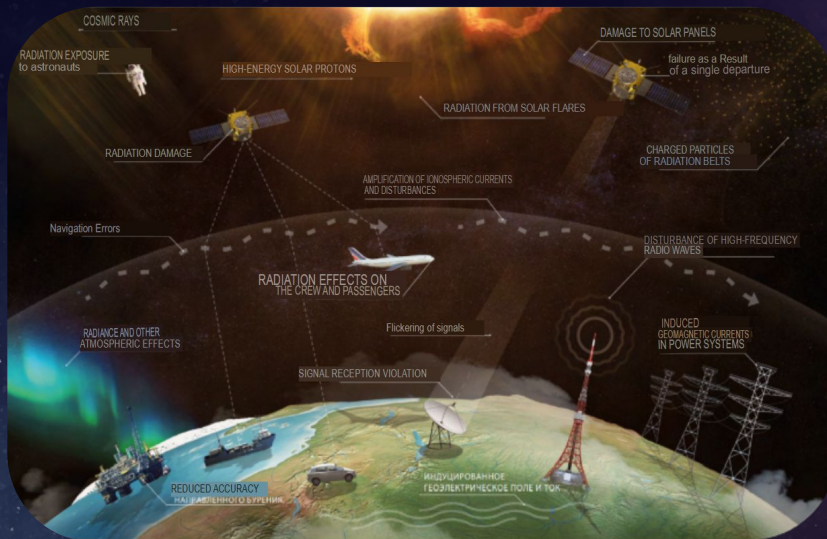
Geomagnetic storms

Strong disturbances in the Earth's magnetic field. Consequences include the expansion of the auroral region into mid-latitudes, power surges, disruption of satellite operations, and disruption of satellite navigation.

Radio blackout

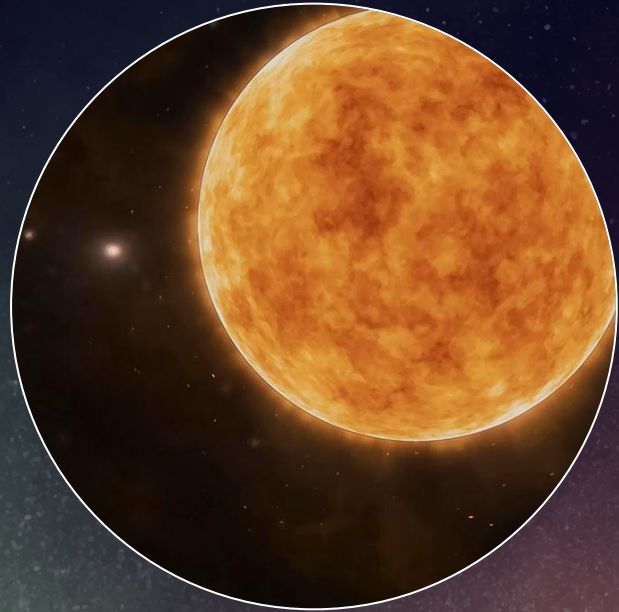
A sudden disruption or complete cessation of radio communication. This radiation increases ionization in the lower layers of the ionosphere, leading to the absorption of shortwave radio waves.





How does it work?

The backend of the application connects to open API sources such as NASA or NOAA for weather data. After this, all the data They are entered into the database and translated into Russian.



Current observations (2025-09-23 23:25:00 UTC)

R

RO

Radio blackouts

S

S0

Solar storms

G

G0

Geomagnetic storms

Probability forecasts (from the NOAA API)

2025-09-23

R1-R2: 35%

R3-R5: 1%

S1+: 1%

G: no

Today

2025-09-24

R1-R2: 35%

R3-R5: 1%

S1+: 1%

G: no

Tomorrow

2025-09-25

R1-R2: 35%

R3-R5: 1%

S1+: 1%

G: no

The day after tomorrow

Solar Wind Parameters (MOAA)

Current solar wind measurements



UTC TIME

2025-09-23



density

0.06 cm^{-3}



speed

525.3 km/s



temperature

40541 K

| SPACE WEATHER WARNINGS | | | |
|------------------------|---------------------------------------------------------------|----------------------|-------------------------------|
| The code\$ | TYPE OF WARNING | RELEASE TIME | actions |
| ALTP2-1426 | Typell Radio Emission | 23.09.2025 11:11 UTC | more detailed |
| WARNK04-5085 | EXTENDED WARNING: Geomagnetic K-index of 4 expected | 22.09.2025 23:54 UTC | more detailed |
| ALTEF3-3531 | CONTINUED ALERT: Electron 2MeV Integral Flux exceeded 1000pfu | 22.09.2025 12:11 UTC | more detailed |
| WARNK04-5084 | WARNING: Geomagnetic K-index of 4 expected | 22.09.2025 01:57 UTC | more detailed |
| ALTEF3-3530 | CONTINUED ALERT: Electron 2MeV Integral Flux exceeded 1000pfu | 21.09.2025 05:00 UTC | more detailed |

